

WHAT IS CLAIMED IS:

1. An immunomodulating agent for the endocytic presentation of an immunosuppressive factor on the surface of an antigen presenting cell of a vertebrate comprising at least one Fc receptor ligand and at least one immunosuppressive factor.

5 2. The immunomodulating agent of claim 1 wherein said immunosuppressive factor is a T cell receptor antagonist.

3. The immunomodulating agent of claim 2 wherein said T cell receptor antagonist comprises a peptide antagonist.

10 4. The immunomodulating agent of claim 3 wherein said peptide antagonist is an analog of a peptide agonist capable of activating a T cell response to proteolipid protein.

5. ~~The immunomodulating agent of claim 3 wherein said peptide antagonist is an analog of a peptide agonist capable of activating a T cell response to myelin basic protein.~~

15 6. The immunomodulating agent of claim 1 wherein said at least one Fc receptor ligand comprises at least part of a domain of a constant region of an immunoglobulin molecule.

7. The immunomodulating agent of claim 1 wherein the immunomodulating agent comprises a polypeptide.

20 8. The immunomodulating agent of claim 1 wherein the immunomodulating agent comprises an antibody-antigen complex.

9. The immunomodulating agent of claim 1 wherein the immunomodulating agent is a chimeric antibody.

25 10. The immunomodulating agent of claim 9 wherein said chimeric antibody comprises a T cell receptor antagonist.

32 11. The immunomodulating agent of claim 10 wherein said T cell receptor antagonist is expressed within at least one complementarity determining region.

30 12. A method for producing an immunomodulating agent for the endocytic presentation of an immunosuppressive factor on the surface of an antigen presenting cell of a vertebrate comprising the steps of:

transforming or transfecting suitable host cells with a recombinant

polynucleotide molecule comprising a nucleotide sequence which encodes a polypeptide comprising at least one Fc receptor ligand and at least one immunosuppressive factor;

5 culturing the transformed or transfected host cells under conditions in which said cells express the recombinant polynucleotide molecule to produce said polypeptide wherein the polypeptide comprises at least a part of an immunomodulating agent; and

recovering said immunomodulating agent.

10 13. The method of claim 12 wherein said immunosuppressive factor is a T cell receptor antagonist.

14. The method of claim 13 wherein said T cell receptor antagonist is an analog of a peptide agonist capable of activating a T cell response to proteolipid protein.

15 15. The method of claim 13 wherein said T cell receptor antagonist is an analog of a peptide agonist capable of activating a T cell response to myelin basic protein.

16. The method of claim 12 wherein said Fc receptor ligand comprises at least a part of one domain of a constant region of an immunoglobulin molecule.

20 17. The method of claim 16 wherein the immunoglobulin molecule is human IgG molecule.

18. The method of claim 12 wherein said immunomodulating agent comprises said polypeptide.

19. The method of claim 12 wherein said immunomodulating agent comprises a chimeric antibody.

25 20. The method of claim 19 wherein said chimeric antibody comprises a heavy chain wherein at least one complementarity determining region has been replaced with a T cell receptor antagonist.

21. The method of claim 20 wherein said complementarity determining region is CDR 3.

30 22. A pharmaceutical composition for the endocytic presentation of an immunosuppressive factor on the surface of an antigen presenting cell of a vertebrate

comprising at least one immunomodulating agent and a pharmaceutically acceptable carrier, said at least one immunomodulating agent comprising at least one Fc receptor ligand and at least one immunosuppressive factor.

23. The composition of claim 22 wherein said immunosuppressive factor
5 is a T cell receptor antagonist.

24. The composition of claim 23 wherein said T cell receptor antagonist is
an analog of a peptide agonist capable of activating a T cell response to proteolipid
protein.

25. The composition of claim 23 wherein said T cell receptor antagonist is
10 an analog of a peptide agonist capable of activating a T cell response to myelin basic
protein.

26. The composition of claim 22 wherein said Fc receptor ligand comprises
at least part of one domain of a constant region of an immunoglobulin molecule.

27. The composition of claim 26 wherein the immunoglobulin molecule is
15 human IgG molecule.

28. The composition of claim 22 wherein said immunomodulating agent
comprises a polypeptide.

29. The composition of claim 22 wherein said immunomodulating agent
comprises a chimeric antibody.

30. A method for the preparation of a pharmaceutical composition to treat
20 an immune disorder comprising combining at least one immunomodulating agent with
a physiologically acceptable carrier or diluent wherein said immunomodulating agent
comprises at least one Fc receptor ligand and at least one immunosuppressive factor.

31. The method of claim 30 wherein said immunosuppressive factor is a T
25 cell receptor antagonist.

32. The method of claim 31 wherein said T cell receptor antagonist is an
analog of a peptide agonist capable of activating a T cell response to proteolipid
protein.

33. The method of claim 31 wherein said T cell receptor antagonist is an
30 analog of a peptide agonist capable of activating a T cell response to myelin basic
protein.

34. The method of claim 30 wherein said Fc receptor ligand comprises at least part of one domain of a constant region of an immunoglobulin molecule.

35. The method of claim 34 wherein the immunoglobulin molecule is human IgG molecule.

5 36. The method of claim 30 wherein said immunomodulating agent comprises a polypeptide.

37. The method of claim 30 wherein said immunomodulating agent comprises a chimeric antibody.

10 38. The method of claim 30 wherein said immunomodulating agent comprises an antibody-antigen complex.

39. A method for treating an immune disorder comprising:

administering to a patient a therapeutically effective amount of a pharmaceutical composition comprising an immunomodulating agent in combination with a physiologically acceptable carrier or diluent wherein said immunomodulating agent comprises at least one Fc receptor ligand and at least one immunosuppressive factor.

40. The method of claim 39 wherein said immunosuppressive factor is a T cell receptor antagonist.

20 41. The method of claim 40 wherein said T cell receptor antagonist is an analog of a peptide agonist capable of activating a T cell response to proteolipid protein.

42. The method of claim 40 wherein said T cell receptor antagonist is an analog of a peptide agonist capable of activating a T cell response to myelin basic protein.

25 43. The method of claim 39 wherein said Fc receptor ligand comprises at least part of one domain of a constant region of an immunoglobulin molecule.

44. The method of claim 43 wherein the immunoglobulin molecule is human IgG molecule.

30 45. The method of claim 39 wherein said immunomodulating agent comprises a polypeptide.

46. The method of claim 39 wherein said immunomodulating agent

comprises a chimeric antibody.

47. The method of claim 39 wherein said immune disorder comprises a disorder selected from the group consisting of autoimmune disorders, allergic responses and transplant rejection.

5 48. The method of claim 47 wherein said immune disorder comprises an autoimmune disorder selected from the group consisting of multiple sclerosis, lupis, rheumatoid arthritis, scleroderma, insulin-dependent diabetes and ulcerative colitis.

49. A recombinant polynucleotide molecule encoding a polypeptide wherein said polynucleotide molecule comprises at least one nucleotide sequence corresponding
10 to a Fc receptor ligand and at least one nucleotide sequence corresponding to an immunosuppressive factor.

50. The polynucleotide molecule of claim 49 wherein said immunosuppressive factor is a T cell receptor antagonist.

51. The polynucleotide molecule of claim 49 wherein said polypeptide
15 comprises at least a part of an immunomodulating agent.

52. The polynucleotide molecule of claim 49 wherein said polynucleotide molecule comprises a sequence corresponding to at least part of one domain of a constant region of an immunoglobulin molecule.

53. The polynucleotide molecule claim 52 wherein the immunoglobulin
20 molecule is a human IgG molecule.

54. The polynucleotide molecule of claim 49 wherein said polynucleotide molecule encodes a nucleotide sequence corresponding to an immunoglobulin heavy chain wherein a complementarity determining region has been at least partially deleted and replaced with a nucleotide sequence corresponding to T cell receptor antagonist.

25 55. Transfected or transformed cells comprising a recombinant polynucleotide molecule encoding a polypeptide wherein the polypeptide comprises at least one Fc receptor ligand and at least one immunosuppressive factor.

56. The transfected or transformed cells of claim 55 wherein said immunosuppressive factor is a T cell receptor antagonist.

30 57. The transfected or transformed cells of claim 55 wherein said Fc receptor ligand comprises at least part of one domain of a constant region of an

immunoglobulin molecule.

58. The transfected or transformed cells of claim 55 wherein said polypeptide comprises at least part of an immunomodulating agent.

59. The transfected or transformed cells of claim 58 wherein said
5 immunomodulating agent corresponds to said polypeptide.

60. The transfected or transformed cells of claim 58 wherein said immunomodulating agent comprises a chimeric antibody.

61. A method for the effective *in vitro* endocytic presentation of an immunosuppressive factor comprising the steps of:

10 providing a medium comprising a plurality of antigen presenting cells expressing Fc receptors; and

combining said medium with a immunomodulating agent containing composition wherein the composition comprises an immunomodulating agent having at least one Fc receptor ligand and at least one immunosuppressive factor and a
15 compatible carrier.

62. The method of claim 61 wherein said immunosuppressive factor is a T cell receptor antagonist.

63. The method of claim 61 wherein said Fc receptor ligand comprises at least part of one domain of a constant region of an immunoglobulin molecule.

20 64. The method of claim 61 wherein said immunomodulating agent comprises a polypeptide.

65. The method of claim 61 wherein said immunomodulating agent comprises a chim~~er~~^{ic} antibody.